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~~DEP & REF~~

S&H Form: (2/01)

Attorney Docket No. 1747.1001 (formerly 1609.1001)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:

Hitoshi IWASAKA et al.

Application No.: 09/930,159

Group Art Unit: 3749

Confirmation No.: 1497

Filed: August 16, 2001

Examiner: Kenneth B. RINEHART

For: NON-CONTACTING CONVEYANCE EQUIPMENT

REQUEST FOR REFUND TO DEPOSIT ACCOUNT

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

Applicants were charged \$336 and \$126 related to the above-referenced application from the Deposit Account (dated April 2006). The charge(s) is/are marked with Fee Code 1201 and 1202 respectively, which relate to the Patent Office Fees for filing an Extra Independent Claims and Extra Total Claims. However, no such Extra Independent Claims and Extra Total Claims were ever requested by the undersigned.

Accordingly, it is respectfully requested that this charge be credited to Deposit Account No. 19-3935 and that the Patent Office acknowledge this credit in writing to the undersigned.

Respectfully submitted,

STAAS & HALSEY LLP

Date: 3-18-08

By: 

Michael J. Badagliacca
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REPLY/AMENDMENT FEE TRANSMITTAL (1 PG); AMENDMENT (11 PP); EXHIBIT (1 PG); NO FEES
ENCLOSED

APPLICANT(S): Hitoshi IWASAKA et al.
SERIAL NO: 09/930,159
CONFIRMATION NO. 1497
TITLE: NON-CONTACTING CONVEYANCE EQUIPMENT
FILING DATE: August 16, 2001
DOCKET NO: 1747.1001 (formerly 1609.1001)/MJB:nsa
DUE DATE: April 9, 2006 (a Sunday)



(16)



S&H Form: (02/05)

**REPLY/AMENDMENT
FEE TRANSMITTAL**

Attorney Docket No.	1747.1001 (formerly 1609.1001)
Application Number	09/930,159
Filing Date	August 16, 2001
First Named Inventor	Hitoshi IWASAKA et al.
Group Art Unit	3749

AMOUNT ENCLOSED

0.00

Examiner Name

Kenneth B. RINEHART

FEE CALCULATION (fees effective 12/08/04)

CLAIMS AS AMENDED	Claims Remaining After Amendment	Highest Number Previously Paid For	Number Extra	Rate	Calculations
TOTAL CLAIMS	30	- 35 =	0	X \$ 50.00 =	\$ 0.00
INDEPENDENT CLAIMS	11	- 11 =	0	X \$ 200.00 =	0.00

Since an Official Action set an original due date of April 9, 2006 (a Sunday), petition is hereby made for an extension to cover the date this reply is filed for which the requisite fee is enclosed (1 month (\$120)); (2 months (\$450)); (3 months (\$1,020)); (4 months (\$1,590)); (5 months (\$2,160));

If Notice of Appeal is enclosed, add (\$500.00)

If Statutory Disclaimer under Rule 20(d) is enclosed, add fee (\$130.00)

Information Disclosure Statement (Rule 1.17(p)) (\$180.00)

Total of above Calculations =

\$ 0.00

Reduction by 50% for filing by small entity (37 CFR 1.9, 1.27 & 1.28)

TOTAL FEES DUE =

\$ 0.00

(1) If entry (1) is less than entry (2), entry (3) is "0".

(2) If entry (2) is less than 20, change entry (2) to "20".

(4) If entry (4) is less than entry (5), entry (6) is "0".

(5) If entry (5) is less than 3, change entry (5) to "3".

METHOD OF PAYMENT

- ☐ Check enclosed as payment.
- ☐ Charge "TOTAL FEES DUE" to the Deposit Account No. below.
- ☒ No payment is enclosed.

GENERAL AUTHORIZATION

- ☒ If the above-noted "AMOUNT ENCLOSED" is not correct, the Commissioner is hereby authorized to credit any overpayment or charge any additional fees necessary to:

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19-3935

Deposit Account Name

STAAS & HALSEY LLP

- ☒ The Commissioner is also authorized to credit any overpayments or charge any additional fees required under 37 CFR 1.16 (filing fees) or 37 CFR 1.17 (processing fees) during the prosecution of this application, including any related application(s) claiming benefit hereof pursuant to 35 USC § 120 (e.g., continuations/divisionals/CIPs under 37 CFR 1.53(b) and/or continuations/divisionals/CPAs under 37 CFR 1.53(d)) to maintain pendency hereof or of any such related application.

SUBMITTED BY: STAAS & HALSEY LLP

Typed Name	Michael J. Badagliacca	Reg. No.	39,099
Signature		Date	4-12-06

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Adjustment Date: 04/04/2008 MGBREM1
04/24/2006 RCOBB1 00000001 193935 09930159
01 FC:1201 336.00 CR
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Docket No.: 1747.1001 (formerly 1609.1001)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Hitoshi IWASAKA et al.

Serial No. 09/930,159

Group Art Unit: 3749

Confirmation No. 1497

Filed: August 16, 2001

Examiner: Kenneth RINEHART

For: NON-CONTACTING CONVEYANCE EQUIPMENT

AMENDMENT

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

This is in response to the Office Action mailed January 9, 2006, and having a period for response set to expire on April 9, 2006 (a Sunday).

The following amendments and remarks are respectfully submitted. Reconsideration of the claims is respectfully requested.

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IN THE CLAIMS:

Please CANCEL claim 58 and AMEND claims 1, 8, 10 and 60 in accordance with the following:

1. (CURRENTLY AMENDED) A non-contacting conveyance equipment comprising:
a body having an end face that opposes an object being conveyed, and at least one concave opening formed in the end face and surrounded by a cylindrical inner side wall;
at least one fluid passageway having at least one spout to introduce fluid into an inner space of the concave opening in one circumferential direction of the cylindrical inner sidewall so as to cause a swirl of fluid within the concave opening, the at least one spout being formed on the cylindrical inner sidewall;
a centering guide; and
a centering mechanism provided at the body to adjust the centering guide in a direction towards the object to cause the centering guide to control a lateral movement of the object.

2-7 (CANCELLED)

8. (CURRENTLY AMENDED) A non-contacting conveyance equipment comprising:
a body having an end face that opposes an object being conveyed, and at least one
concave opening formed in the end face and surrounded by a cylindrical inner side wall;
at least one fluid passageway having at least one spout to introduce fluid into an inner
space of the concave opening in one circumferential direction of the cylindrical inner sidewall so
as to cause a swirl of fluid within the concave opening, the at least one spout being formed on
the cylindrical inner sidewall;

a centering guide; and
a centering mechanism provided at the body to adjust the centering guide to cause the
centering guide to control a lateral movement of the object
~~A non-contacting conveyance equipment according to claim 1, wherein the centering mechanism comprises:~~

a rotatable disk; and
at least one arm linking the centering guide to the rotatable disk such that rotation of the
rotatable disk changes a radial distance of the centering guide from the center of the non-
contacting conveyance equipment.

9. (PREVIOUSLY PRESENTED) A non-contacting conveyance equipment according to claim 8, wherein the centering mechanism is pneumatically driven.

10. (CURRENTLY AMENDED) A non-contacting conveyance equipment to convey an object comprising:

a base;

a centering guide;

a plurality of fluid swirl formation objects which are provided at the base; and

a centering mechanism which is provided at the base and adjusts the centering guide in a direction towards the object to cause the centering guide to control a lateral movement of the object being conveyed,

wherein each of the plurality of fluid swirl formation objects comprises:

a body having an end face that opposes the object conveyed, and a concave opening formed in the end face and surrounded by a cylindrical inner side wall, and

at least one fluid passageway having at least one spout to introduce fluid into an inner space of the concave opening in one circumferential direction of the cylindrical inner side wall so as to cause a swirl of fluid within the concave opening, the at least one spout being formed on the cylindrical inner side wall.

11. (PREVIOUSLY PRESENTED) A non-contacting conveyance equipment according to claim 10, wherein fluid swirls clockwise in at least one of the plurality of fluid swirl formation objects, and fluid swirls counter clockwise in at least one of the plurality of fluid swirl formation objects.

12. (PREVIOUSLY PRESENTED) A non-contacting conveyance equipment according to claim 10, wherein the base is surrounded with a peripheral edge to block a flow of fluid from the base.

13. (PREVIOUSLY PRESENTED) A non-contacting conveyance equipment according to claim 12, wherein the peripheral edge has a stepped shape.

14. (PREVIOUSLY PRESENTED) A non-contacting conveyance equipment according to claim 10, further comprising at least one fluid discharge passage provided in the base to expel fluid supplied through the at least one spout of the plurality of fluid swirl formation objects.

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15-30 (CANCELLED)

31. (PREVIOUSLY PRESENTED) A non-contacting conveyance equipment according to claim 10, wherein the centering mechanism comprises:
a rotatable disk; and
at least one arm linking the centering guide to the rotatable disk such that rotation of the rotatable disk changes a radial distance of the centering guide from the center of the non-contacting conveyance equipment.

32. (PREVIOUSLY PRESENTED) A non-contacting conveyance equipment according to claim 31, wherein the centering mechanism is pneumatically driven.

33-37. (CANCELLED)

38. (PREVIOUSLY PRESENTED) A non-contacting conveyance equipment according to claim 1, wherein
the at least one spout further comprises plural pairs of spouts, and
each of the plural pairs of spouts is formed on the cylindrical inner side wall symmetrically to a central axis of the concave opening.

39. (PREVIOUSLY PRESENTED) A non-contacting conveyance equipment according to claim 1, wherein the end face comprises a chamfered edge.

40. (PREVIOUSLY PRESENTED) A non-contacting conveyance equipment according to claim 1, wherein the concave opening is in a tapered shape.

41. (PREVIOUSLY PRESENTED) A non-contacting conveyance equipment according to claim 10, wherein
the at least one spout further comprises plural pairs of spouts, and
each of the plural pairs of spouts is formed on the cylindrical inner side wall symmetrically to a central axis of the concave opening.

42. (PREVIOUSLY PRESENTED) A non-contacting conveyance equipment according to claim 10, wherein the end face comprises a chamfered edge.

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43. (PREVIOUSLY PRESENTED) A non-contacting conveyance equipment according to claim 10, wherein the concave opening is in a tapered shape.

44. (PREVIOUSLY PRESENTED) A non-contacting conveyance equipment according to claim 10, wherein the plurality of fluid swirl formation objects are provided at the base in such a way that each of the plurality of fluid swirl formation objects extends from the base.

45. (PREVIOUSLY PRESENTED) Non-contacting conveyance equipment comprising:

- a hole-shaped concave opening having a continuous walled inner peripheral surface;
- an end face that opposes an object to be conveyed, the end face being formed in the concave opening;
- a fluid passageway comprising a spout facing the inside of the concave opening, to supply fluid to the inner peripheral surface of the concave opening so as to cause a swirl of fluid within the concave opening; and
- a centering guide to maintain the object to be conveyed such that the object opposes the end face, wherein
 - the non-contacting conveyance equipment has an outer periphery,
 - the centering guide comprises at least three centering protrusions provided around the outer periphery,
 - the centering protrusions are radially displaced from a center of the non-contacting conveyance equipment, and
 - the non-contacting conveyance equipment further comprises a centering mechanism to vary the radial distance of the centering protrusions from the center of the non-contacting conveyance equipment.

46. (PREVIOUSLY PRESENTED) Non-contacting conveyance equipment according to claim 45, wherein the centering mechanism comprises:

- a rotatable disk; and

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arms linking each centering protrusion to the rotatable disk such that rotation of the rotatable disk changes the radial distance of the centering protrusions from the center of the non-contacting conveyance equipment.

47. (PREVIOUSLY PRESENTED) Non-contacting conveyance equipment according to claim 46, wherein the centering mechanism is pneumatically driven.

48. (PREVIOUSLY PRESENTED) Non-contacting conveyance equipment comprising:

- a hole-shaped concave opening having a continuous walled inner peripheral surface;
- an end face that opposes an object to be conveyed, the end face being formed in the

concave opening;

- a fluid passageway comprising a spout facing the inside of the concave opening, to supply fluid to the inner peripheral surface of the concave opening so as to cause a swirl of fluid within the concave opening; and

- a base with a plurality of concave openings provided on the base, each concave opening having an end face formed therein and a fluid passageway comprising a spout facing the inside thereof,

wherein the base is surrounded with a peripheral edge to block a flow of fluid off the base and the peripheral edge has a stepped shape.

49. (PREVIOUSLY PRESENTED) Non-contacting conveyance equipment comprising:

- a hole-shaped concave opening having a continuous walled inner peripheral surface;
- an end face that opposes an object to be conveyed, the end face being formed in the

concave opening;

- a fluid passageway comprising a spout facing the inside of the concave opening, to supply fluid to the inner peripheral surface of the concave opening so as to cause a swirl of fluid within the concave opening;

- a base with a plurality of concave openings provided on the base, each concave opening having an end face formed therein and a fluid passageway comprising a spout facing the inside thereof; and

- at least one fluid discharge passage provided in the base to eliminate fluid supplied through the spouts.

50. (PREVIOUSLY PRESENTED) Non-contacting conveyance equipment comprising:

- a hole-shaped concave opening having a continuous walled inner peripheral surface;
- an end face that opposes an object to be conveyed, the end face being formed in the concave opening;

- a fluid passageway comprising a spout facing the inside of the concave opening, the fluid passageway ending at an opening through the inner peripheral surface, to supply fluid to the inner peripheral surface of the concave opening so as to cause a swirl of fluid within the concave opening; and

- a centering guide to maintain the object to be conveyed such that the object opposes the end face, wherein

 - the non-contacting conveyance equipment has an outer periphery,

 - the centering guide comprises at least three centering protrusions provided around the outer periphery,

 - the centering protrusions are radially displaced from a center of the non-contacting conveyance equipment, and

 - the non-contacting conveyance equipment further comprises a centering mechanism to vary the radial distance of the centering protrusions from the center of the non-contacting conveyance equipment.

51. (PREVIOUSLY PRESENTED) Non-contacting conveyance equipment according to claim 50, wherein the centering mechanism comprises:

- a rotatable disk; and

- arms linking each centering protrusion to the rotatable disk such that rotation of the rotatable disk changes the radial distance of the centering protrusions from the center of the non-contacting conveyance equipment.

52. (PREVIOUSLY PRESENTED) Non-contacting conveyance equipment according to claim 51, wherein the centering mechanism is pneumatically driven.

53. (PREVIOUSLY PRESENTED) Non-contacting conveyance equipment comprising:

- a hole-shaped concave opening having a continuous walled inner peripheral surface;

FIG. 10
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an end face that opposes an object to be conveyed, the end face being formed in the concave opening;

a fluid passageway comprising a spout facing the inside of the concave opening, the fluid passageway ending at an opening through the inner peripheral surface, to supply fluid to the inner peripheral surface of the concave opening so as to cause a swirl of fluid within the concave opening; and

a base with a plurality of concave openings are provided on the base, each concave opening having an end face formed therein and a fluid passageway comprising a spout facing the inside thereof,

wherein the base is surrounded with a peripheral edge to block a flow of fluid off the base and the peripheral edge has a stepped shape.

54. (PREVIOUSLY PRESENTED) Non-contacting conveyance equipment comprising:

a hole-shaped concave opening having a continuous walled inner peripheral surface;

an end face that opposes an object to be conveyed, the end face being formed in the concave opening;

a fluid passageway comprising a spout facing the inside of the concave opening, the fluid passageway ending at an opening through the inner peripheral surface, to supply fluid to the inner peripheral surface of the concave opening so as to cause a swirl of fluid within the concave opening;

a base with a plurality of concave openings are provided on the base, each concave opening having an end face formed therein and a fluid passageway comprising a spout facing the inside thereof; and

at least one fluid discharge passage provided in the base to eliminate fluid supplied through the spouts.

55-58. (CANCELLED)

59. (PREVIOUSLY PRESENTED) A non-contacting conveyance equipment to convey an object comprising:

a base, wherein the base comprises a base part and first and second arm parts which branch from the base in a prong arrangement; and

a plurality of fluid swirl formation objects which are provided at the first and second arm

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REMARKS

INTRODUCTION:

In accordance with the foregoing, claim 58 has been cancelled and claims 1, 8, 10, and 60 have been amended. Claims 1, 8-14, 31-32, 38-54 and 59-61 are pending and under consideration. Claims 45-54 are allowed. Claims 8-9 and 60-61 are objected to.

EXAMINER INTERVIEW:

An in-person interview was conducted between the Examiner and the Applicants' representative subsequent to the mailing of the current Office Action. The participants discussed the centering mechanism of claim 1, the combination of references with respect to claim 58, and the consideration of advantages with respect to claim 59.

REJECTIONS UNDER 35 U.S.C. §103:

Claim 58 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Siniaguine et al. (U.S. Patent 6,402,843) in view of Akashi (U.S. Patent 5,067,762).

The claim is cancelled herein.

Claims 1, 10, 14, 38, 39, 40, 41, 42, 43 and 44 are rejected under 35 U.S.C. §103(a) as being unpatentable over Siniaguine et al. (U.S. Patent 6,402,843) in view of Traves (U.S. Patent 4,009,785).

Independent claims 1 and 10 recite the centering mechanism adjusts the centering guide in a direction towards the object.

The Examiner states that the pins 70 of Traves correspond to the claimed centering guide, and the collar 72 of this reference corresponds to the claimed centering mechanism. As set forth by the Examiner during the interview, the collar 72 of Traves holds the pins in a stationary position so that they do not fall downwards toward the wafer 10. Since the collar 72 keeps the pins from moving toward the wafer 10, the collar 72 adjusts the pins 70 in a direction away from the wafer 10. Thus, this element does not adjust the centering guide in a direction towards the object, as claimed.

Claims 11, 12 and 13 are rejected under 35 U.S.C. §103(a) as being unpatentable over Siniaguine et al. (U.S. Patent 6,402,843) in view of Traves (U.S. Patent 4,009,785) as applied to

parts, wherein:

each of the plurality of fluid swirl formation objects comprises:

a body having an end face that opposes the object, and a concave opening formed in the end face and surrounded by a cylindrical inner side wall, and

at least one fluid passageway having at least one spout to introduce fluid into an inner space of the concave opening in one circumferential direction of the cylindrical inner side wall so as to cause a swirl of the fluid within the concave opening, the at least one spout being formed on the cylindrical inner side wall,

among the plurality of fluid swirl formation objects provided at the first and second arm parts, the fluid swirls in a first direction in the fluid swirl formation objects provided in at the first arm part, and the fluid swirls in a second direction opposite to the first direction in the fluid swirl formation objects provided in the second arm part, and

the plurality of fluid swirl formation objects extending from respective surfaces of the first and second arm parts such that the respective end faces are at different levels from the respective surfaces of the first and second arm parts.

60. (CURRENTLY AMENDED) A non-contacting conveyance equipment comprising:
a body having an end face that opposes an object being conveyed, and at least one
concave opening formed in the end face and surrounded by a cylindrical inner side wall;
at least one fluid passageway having at least one spout to introduce fluid into an inner
space of the concave opening in one circumferential direction of the cylindrical inner sidewall so
as to cause a swirl of fluid within the concave opening; the at least one spout being formed on
the cylindrical inner sidewall;
a centering guide; and
a centering mechanism provided at the body to adjust the centering guide to cause the
centering guide to control a lateral movement of the object~~A non-contacting conveyance~~
~~equipment according to claim 1,~~ wherein the centering mechanism moves the centering guide.

61. (PREVIOUSLY PRESENTED) A non-contacting conveyance equipment according to claim 60, wherein the centering mechanism moves the centering guide in a lateral direction.

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claim 10 above, and further in view of Siniaguine et al. (6,099,056).

Siniaguine '056 does not overcome the above deficiencies in Siniaguine '843 and Traves.

Claim 59 is rejected under 35 U.S.C. §103(a) as being unpatentable over Siniaguine et al. (U.S. Patent 6,099,056).

Independent claim 59 recites the plurality of fluid swirl formation objects extending from respective surfaces of the first and second arm parts such that respective end faces are at different levels from the respective surfaces of the first and second arm parts. As set forth previously, this feature is a structural distinction over Siniaguine '056 resulting in advantages as compared to this reference. One such advantage is a more stable conveyance of the wafer. As illustrated in the attached Exhibit, this advantage is achieved because spaces into which the air can flow are reserved between fluid swirl formation objects. Consequently, turbulence resulting from direct collision of air flow from the objects can be restrained. This Exhibit was previously submitted and is attached again for the Examiner's convenience.

The Examiner's position during the interview and in the Office Action was that these advantages should not be considered in determining patentability, since the advantages were not disclosed in the original Specification. The Examiner has not supported this position with any authority. However, during the interview, the Examiner indicated willingness to consider the advantages if the Applicant could provide authority that such advantages should be considered.

The Examiner's attention is drawn to M.P.E.P. 716.02(f), which specifically states that evidence and arguments directed to advantages not disclosed in the specification cannot be disregarded. This portion of the M.P.E.P. refers to *In re Chu*, 36 USPQ2d 1089 (Fed. Cir. 1995), in which the Federal Circuit stated "the Board erred in apparently requiring Chu's evidence and arguments responsive to the obviousness rejection to be within his specification in order to be considered." *In re Chu*, 36 USPQ2d at 1094.

Thus, consideration of the advantages achieved by this structural distinction is requested. It is respectfully submitted that these advantages render this feature unobvious as compared to Siniaguine '056.

Accordingly, withdrawal of the rejections is requested.

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CONCLUSION:

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.


If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

STAAS & HALSEY LLP

Date: 4-10-06

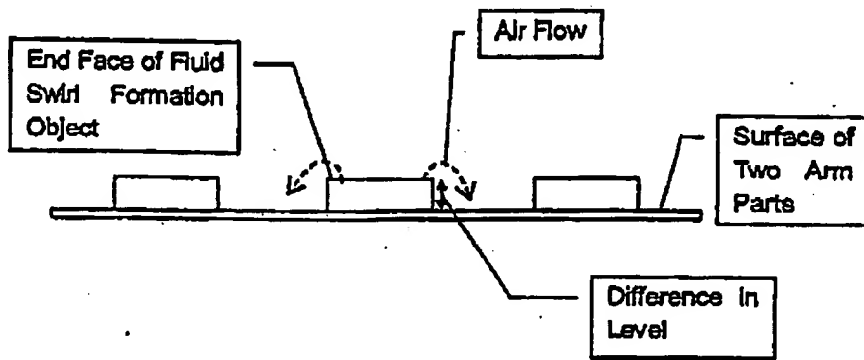
By:



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